



Fats and Oils

Is there a difference between fats and oils?

Unfortunately, although there are definitions of fats and oils, they are widely misused terms. The definitions are as follows:

- ☞ *Lipids* – include all fats and oils.
- ☞ *Fats* – lipids that are usually solid at room temperature (about 20°C). Most fats contain more saturated fats.
- ☞ *Oils* – lipids that are usually liquid at room temperature. Most oils contain less saturated fats and more unsaturated fats.

The terms *fats* and *oils* are used interchangeably most of the time, and will be used in this way throughout this fact sheet.

Types of fats

There are two basic types of fat: *saturated* and *unsaturated*. Nearly all foods, including margarine, butter and oils, contain a mixture of fats. One type is often present in higher amounts, and so that food is called 'high' in saturated or unsaturated fat.

Saturated fats: These are mostly found in animal-based foods such as meat, milk, cheese and eggs. There are some other foods, such as coconut and palm oil, which are also very rich in saturated fats.

Generally, the more saturated fatty acids that are present, the more likely the fat is to be solid at room temperature.

Unsaturated fats: There are two types – polyunsaturated and monounsaturated. Both are found



mainly in foods of fish and vegetable origin, e.g. fish, corn oil, olive oil, avocados, nuts and seeds. Olives, nuts and fish are particularly high in monounsaturated fats.

Food processing

The food industry, in an attempt to produce a butter-like spread using oils that were usually liquids, developed something called 'hydrogenated oils'. These are unsaturated fats that have been chemically altered to act more like saturated fats. As a result of this process, substances called trans-fatty acids were produced and are present in many foods that contain hydrogenated fats. Manufacturers use these fats now for example in margarine, baking, biscuits, cakes, and ice creams.

Links between fats and health

Fats are widely given a bad image as being unhealthy and unnecessary. This is far from the truth. Fats are essential to health.

- ☞ Fats provide vital energy, which we need to grow and stay healthy. Children especially need to include some fat to make sure they get enough energy to grow well.

- ⚡ The building blocks of fats – fatty acids – are important parts of all cell walls.
- ⚡ Fats are the carriers of certain fat-soluble vitamins; without some fat in the diet, these vitamins cannot be absorbed.

The problems with fat arise when people consume too much. Like so many things in life, moderation is important – excess causes the problem.

- ⚡ Fat is a concentrated source of energy. Eating a lot of fatty foods often leads to a diet that contains too much energy. This, combined with a lack of activity, will lead to weight gain, overweight and obesity. Obesity is a risk factor for heart disease, gout, diabetes, hypertension and stroke.
- ⚡ Many people who eat too much fat will also develop a high blood cholesterol level. Their body overproduces cholesterol when there is a lot of fat in their diet. It is widely accepted that high levels of certain types of cholesterol in the blood mean that the risk of heart disease is increased.
- ⚡ There is growing evidence to suggest that high-fat diets are somehow linked to an increased risk of certain cancers, particularly in the breast and colon.

Saturated vs. unsaturated

- ⚡ All types of fat contain the same amount of energy/calories. So it doesn't matter whether you use saturated or unsaturated fats as regards weight control.
- ⚡ Evidence suggests that most of the saturated fats are more likely to cause over-production of cholesterol than the unsaturated fats. It seems that monounsaturated fats are least likely to cause an increase in blood cholesterol when eaten as part of a lower-fat diet.
- ⚡ Evidence suggests that the monounsaturated fats are less likely to cause cancer.

However: All evidence shows that the effect of the type of fat is less important than the total amount of fat eaten. It is therefore more important for people to eat less fat than to worry about types of fat.

Trans-fatty acids

Produced during some food processing, these have been shown to have a particularly potent effect on blood cholesterol level (causing an increase).

Cholesterol

Cholesterol is an essential substance used to maintain the structure of all body cells. Our body produces cholesterol from fats that we eat. It seems that this cholesterol can be involved in the build-up of fatty deposits in the blood vessels when levels are too high. This narrows the blood vessels. Some people produce too much cholesterol, causing an increase in levels of cholesterol in the blood. These individuals can often slow down the rate at which their body makes this cholesterol by reducing the amount of fat they eat (and exercising). Only a small amount of the raised blood cholesterol is due to cholesterol found in foods. It also seems that only a small number of people are affected by eating too much cholesterol (so most people can eat foods that are rich in cholesterol without a significant effect on blood cholesterol). Foods rich in cholesterol include: eggs, prawns, crab, lobster, clams and other molluscs, fish roe, sea urchin, squid, octopus and liver.

Coconut

Mature coconut has received a lot of attention because of its extremely high fat content, and its high levels of saturated fats. We now know that some of the saturated fat in coconut is of a type that the body treats more as an unsaturated fat than as a saturated fat. However the remaining saturated fats are thought to be atherogenic (they narrow the arteries by blocking them with build-up of fatty deposits). There is some evidence to suggest that a protein found in coconut can help to reduce the effect of this saturated fat on blood cholesterol. Evidence is still lacking overall for the role of coconut in health in the modern diet. The advice to eat a moderate amount of fat is most important – whatever the source of fat. (Traditional diets included plenty of mature coconut; however other sources of fat in





the diet were minimal and people were more active and less likely to be overweight. This does not therefore show that coconut does not pose a problem in a more westernised diet.)

Reducing fat

We get fat from many foods, and although many people may think that they eat hardly any fat, they may be surprised to find out how much they actually get.

In the table below are some examples of foods and their relative fat levels.

Cooking methods

Frying increases the fat content of the food – for example if you fry a serving of rice, it may absorb 20–30 g of fat/oil. When you buy take-away meals or you eat food prepared by someone else, you do not know how much oil/fat has been used in cooking. When choosing meals outside the

home, be careful of fried dishes and large amounts of cream or coconut cream.

To reduce the amount of fats added to food during cooking, look at the following ideas:

- ✦ Do not deep-fry foods.
- ✦ Do not shallow-fry foods – instead use a non-stick pan or very lightly brush the bottom of the pan with oil.
- ✦ When grilling, do not put oil/butter/margarine on the food. Make sure any fat that comes out of the food during cooking can drain away.
- ✦ Reduce the amount of coconut cream and milk that you use – use it less often, or use a smaller amount.

For healthier, lower-fat cooking methods, put away your frying pan and instead use your grill, barbeque, or microwave; steam, boil, or bake your food; or make a stew or a soup.

Remember we all need some fat in our diets; we just need to be careful not to eat too much. Most of us, as adults, need to look at eating less fat – by eating fewer fried foods and fewer high-fat foods.

	Foods
Very high fat	Oil, margarine, butter, shortening, lard, mature coconut, coconut cream, mayonnaise, dairy cream
High fat	Coconut milk, reduced-fat margarine and mayonnaise, ice cream, fried foods such as donuts, chips, cheese, corned beef, spam, sausages, burgers, meat spreads/pâté, turkey tails, mutton flaps, crisps/savoury fried snacks
Medium fat	Cakes, biscuits, eggs, reduced-fat cheese, fish tinned in oil (drained), lean meat, some burgers, nuts, seeds, instant noodles (ramen), full-fat milk
Low fat	Reduced-fat milk, chicken (no skin), fish, shellfish
Very little fat	Fruits and vegetables, plain pasta, rice, bread (made without added fat), bread-fruit, taro, tapioca, yam, sweet potato, skimmed milk (fat-free), lentils, beans

Table to show fat content of some common foods (in a portion)

	<i>Portion size (g)</i>	<i>Fat content (g)</i>
Cooking banana, raw	1 average banana (140 g)	0.2 g
Cooking banana, fried	1 average banana (140 g)	9.2 g
Potato, baked without fat	1 medium potato (90 g)	0.05 g
Potato, fried as chips/French fries	1 cup (90 g)	13.2 g
Home-made doughnut	1 doughnut (100 g)	21.9 g
Sardine, canned in oil, drained	1 sardine (12 g)	1.9 g
Sardine, canned in oil, not drained	1 sardine (12 g)	3.2 g
Reef fish, grilled	1 fish (135 g)	4.5 g
Corned beef	1 serving (100 g)	14.7 g
Mutton flap, fried	1 serving (100 g)	27.4 g
Spam	1 serving (100 g)	31 g
Coconut cream (fresh)	1 serving (30 g)	9.7 g
Fresh coconut juice	1 serving (200 g)	0.4 g

